

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>CMD 2581 DE</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/EP2004/006761</b>	International filing date (day/month/year) <b>23.06.2004</b>	Priority date (day/month/year) <b>03.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C08J9/42, C08J9/28, C08J3/22</b>		
Applicant <b>MEMBRANA GMBH</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>7</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-24 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1-32 \_\_\_\_\_ received by this Authority on 06.05.2005 with letter
- nos.\* \_\_\_\_\_ received by this Authority on of 03.05.2005
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims		YES
	Claims	1-32	NO
Inventive step (IS)	Claims		YES
	Claims	1-32	NO
Industrial applicability (IA)	Claims	1-32	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

- D1: EP 0 129 420 A (CELANESE CORP) 27 December 1984  
(1984-12-27)
- D2: WO 02/22732 A (ZUCCHELLI UGO; BASELLTECH USA INC  
(US)) 21 March 2002 (2002-03-21)
- D3: EP 0 482 600 A (HIMONT INC) 29 April 1992 (1992-04-  
29)
- D4: EP 0 657 489 A (BRUGG AG KABELWERKE) 14 June 1995  
(1995-06-14)
- D5: WO 98/04618 A (FRANCOIS PHILIPPE; RASCHE HEINZ  
HELMER (DE); DERLETH HELMUT (DE); BRE) 5 February  
1998 (1998-02-05)
- D6: WO 92/07899 A (MINNESOTA MINING & MFG) 14 May 1992  
(1992-05-14)
- D7: EP 1 247 831 A (ASAHI CHEMICAL IND) 9 October 2002  
(2002-10-09)
- D8: WO 97/20884 A (TABAKSBLAT RONALD; DSM NV (NL);  
AUSSEMS HENDRIKUS FRANCISCUS (NL)) 12 June 1997  
(1997-06-12).

The subject matter of claims 1 to 32 is not novel (PCT  
Article 33(2)) with respect to documents D1 to D8, which

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disclose particles of hydrophobic polymers such as polyolefins or PEK having a hydrophilized surface, and their uses as substrates for water-soluble or water-dispersible additives, active substances or absorbents (see the passages in documents D1 to D8 cited in the search report).

1. Document D1 describes microporous fibres (see, for example, page 7, lines 24 to 34); unless expressly stated otherwise, the prefix "micro..." designates sizes in the micrometer range (see, for example, the observations of the prior art on page 3, lines 9 to 19, and the preferred microporous materials on page 8, line 27, to page 9, line 9, of document D1). On the other hand, mean particle sizes of 50 to 5000  $\mu\text{m}$  are common in the case of fibres (see, for example, Polymer Science Dictionary, 1989, pages 161-162). The water loading capacity according to the invention is the natural result of the hydrophilization and greater porosity of the particles of document D1 (see, for example, claim 1 and page 8, line 27, to page 9, line 9).

2. It is clear from page 4, paragraph 5, to page 5, paragraph 2, document D2, that the mean pore diameter of the particles is intended to correspond to the range according to the application. The water loading capacity according to the application is the natural result of the hydrophilization and greater porosity of the particles of document D2 (see, for example, page 9, paragraph 5 and claim 1).

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3. The water loading capacity according to the application is the natural result of the hydrophilization caused by the *in situ* production and deposition of layers of polar molecules on the pore surfaces and the greater porosity of the particles of document D3 (see, for example, the claims).

4. Document D4 refers to the porous structure according to document US-A-4 247 498 (see, for example, column 1, line 43, to column 2, line 40, and column 21, lines 48 to 64, column 23, line 11, to column 23, line 57 of '498) in order to produce microporous particles for additivization with hydrophilic compounds of plastics. The size of such particles should naturally correspond to the sizes according to the application.

5. The water loading capacity according to the application naturally results from the hydrophilization using organic compounds with functional groups, surfactants or inorganic oxides and the higher porosity of the particles of document D5 (see, for example, page 6, paragraph 5, to page 7, paragraph 4, and claim 14).

6. Document D6 discloses beads according to the application (see claim 2 in conjunction with page 24, lines 23 to 35). These beads usually correspond to microspheres (see Hawley's Condensed Chemical Dictionary, 12<sup>th</sup> Edition, pages 124, 125, 785).

7. Document D7 describes the uses of microporous beads loaded with water (see, for example, paragraphs 34, 74 and 126). The same applies to document D8 (see the

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passages cited in the search report).